Electoral Rules and Legislative Particularism: Evidence from U.S. State Legislatures

Online Appendix

In this document we present additional models to examine the robustness of the results presented in the paper. We gathered some new data and developed some additional variables, and we will discuss the details of these data and new measures below when we present the specific models.

1 Sample

In this paper, we investigate how electoral rules influence legislators to sponsor both local and targeted bills in 29 state houses. Since we hand-coded all bills sponsored during the 2003-2004 legislative session, we were limited to only collecting the full data for a sample of state houses. This raises questions of how representative the states we examine are of the population. Thus, in this first section, we investigate how the states included in our sample compare to those that are not in terms of institutional characteristics.

As Table 1 demonstrates, the types of primaries used to select candidates vary significantly across states in both the in-sample and out-of-sample subsets. The different types of primaries constitute roughly the same percentage of observations in the two subsets. Regarding term limits, to ensure sufficient variation on one of the main explanatory variables, our sample contains a greater percentage of states with term limits compared to the out-of-sample states (13 out of the 29, or 45% of states in our sample have term limits compared to 3 out of 20, or 15% of the states not in our sample). To the same end, our sample includes virtually all of the states with multi-member districts, another main explanatory variable.

Second, we examine whether the states in our sample differ in terms of key control variables that might affect legislative particularism. We collected data on *GDP Per Capita*, *Majority Status*, and *Professionalism* for the out-of-sample states. We included all out-of-sample states for which we were able to find data. As Table 2 shows, the states in our sample are not systematically different in terms of those key control variables. Specifically, the

median GDP Per Capita was 33,324 in our sample of states and in the out-of-sample states that we examined, it was 33,109. The median majority party status in our sample was 0.564 compared to 0.629 in the out-of-sample states examined. The median level of professionalism was quite similar (0.169 for the states in our sample and 0.148 for out-of-sample states).

Table 1: Electoral Incentives in Out-of-Sample States (2002)

State	Type of Primary	Term Limits	District Magnitude
Alabama	Open	No Term Limits	1
Alaska	Party-determined	No Term Limits	1
Arkansas	Open	Lifetime Ban (6 years)	1
Colorado	Partially Closed	Consecutive Ban (8 years)	1
Connecticut	Partially Closed	No Term Limits	1
Florida	Closed	Consecutive Ban (8 years)	1
Hawaii	Open	No Term Limits	1
Kentucky	Closed	No Term Limits	1
Massachusetts	Partially Closed	No Term Limits (Repealed, 1997)	1
Mississippi	Partially Open	No Term Limits	1
New Mexico	Closed	No Term Limits	1
New York	Closed	No Term Limits	1
Oregon	Partially Closed	No term Limits (Repealed, 2002)	1
Rhode Island	Partially Closed	No Term Limits	1
South Carolina	Partially Open	No Term Limits	1
Tennessee	Partially Open	No Term Limits	1
Utah	Partially Closed	No Term Limits (Repealed, 2003)	1
Virginia	Partially Open	No Term Limits	1
Wisconsin	Open	No Term Limits	1
Wyoming	Closed	No term Limits (Repealed, 2004)	1

Table 2: Descriptive Statistics

State	Number of obs.	Average	Median	Min.	Max.
In-Sample States					
GDP Per Capita	29	33,748	33,324	23,573	54,949
Majority Status	29	0.5948	0.564	0.489	0.781
Professionalism	29	0.1851	0.169	0.027	0.626
Out-Of-Sample States					
GDP Per Capita	21	33,312	33,109	23,156	45,790
Majority Status	20	0.6508	0.6285	0.545	0.85
Professionalism	21	0.1892	0.148	0.065	0.48

2   Understanding How Electoral Rules Influence Legislative Particularism: Analyzing the Aggregate Patterns

In the paper, we report substantial variation in the rates of local and targeted legislation sponsored across the 29 state houses that we examine. Here, we begin with an analysis of how state-level electoral rules influence the sponsorship rates of local and targeted legislation. This aggregate-level analysis will provide insight into overall effects of our key independent variables on sponsorship of particularistic legislation.

We estimate two models in which the dependent variable is 1) the percentage of local bills sponsored in the state house and 2) the percentage of targeted bills sponsored in the state house. The results of the models are presented in Table 3. Based on this aggregate analysis, we find evidence that the electoral rules do exert a significant influence over the sponsorship of targeted and local legislation. A unit increase in inclusiveness (i.e., the state's primary laws becoming more inclusive of voters or expanding the selectorate) is associated with an expected increase of about 5% targeted bills and about 4% local bills ($p < 0.01$). This is consistent with our expectations that systems expanding the selectorate, or those choosing the party's nominated candidate, provide incentives for members to seek particularistic legislation for which they can claim credit to their constituents and cultivate a personal vote.

In addition to the inclusiveness of the selectorate, we also included a simple binary indicator for whether or not members are elected under multimember districts versus single-member districts. In the paper, since there are mixed systems in which the district magnitude varies, we include a more detailed measure of *district magnitude* at the individual level rather than this simple dichotomous measure. However, for purposes of this analysis, we modify the measure for state-level analysis, simply investigating whether multiple member districts leads members to sponsor more targeted and local legislation. Our results demonstrate that legislators are indeed compelled to sponsor more local and targeted legislation when they

are being elected from multimember districts compared to single-member districts.

For this state-level analysis of bill sponsorship, we also include a dichotomous variable indicating whether or not the state had implemented term limitations during the period we investigate (2003-2004). This variable did not reach conventional levels of statistical significance. We included a variety of control variables discussed in the original paper, such as professionalism, state per capita income, turnover in the legislature, majority seat share, constitutional limits and bill initiation limits on members. Among these control variables, only majority seat share wielded a significant effect on the number of local or targeted bills sponsored by members. Specifically, a 1% increase in the majority party's seat share produces an expected increase of about 3% targeted bills and 4% local bills.

Table 3: OLS Model of the Percentage of Local and Targeted Bills Sponsored in the U.S. States

	Targeted Bills	Local Bills
Inclusiveness	0.05 (0.02)**	0.04 (0.01)**
Professionalism	0.01 (0.04)	0.02 (0.03)
Per-Capita Income	-0.01 (0.03)	-0.03 (0.04)
Turnover	-0.04 (0.09)	-0.03 (0.06)
Majority Size	0.03 (0.01)**	0.04 (0.02)**
Constitutional Limits	0.00 (0.01)	0.02 (0.03)
Bill Initiation Limits	0.02 (0.02)	0.04 (0.05)
Term Limits	0.01 (0.03)	0.01 (0.03)
Multimember Districts	0.08 (0.03)*	0.10 (0.04)*

$*p < 0.05, **p < 0.01, ***p < 0.001$

3   Examining Individual-Level Factors Shaping Bill Sponsorship of Local and Targeted Legislation

In the multilevel model presented in the paper, we included both individual-level factors hypothesized to influence the sponsorship of local and targeted legislation as well as state-level institutional factors. In the previous model in this appendix, we presented a regression model examining the effect of state-level covariates on the percentage of local and targeted legislation proposed. Now, we will separately examine how the individual-level covariates influence the number of targeted and local bills sponsored by state legislators.

We estimate two models with a dependent variable of 1) the number of targeted bills sponsored by each legislator and 2) the number of local bills sponsored by each legislator. We include the individual-level covariates outlined in the paper, such as whether the member

is "termed-out", retiring, or seeking some other office, majority party status, ideological position, etc. For this analysis, we include state-level fixed effects to take into account unobserved heterogeneity and estimate Negative Binomial Regression Models.[1]

The results are presented in Table 4. Our analysis demonstrates a consistent effect of legislators' electoral status and post-career paths on the number of targeted and local bills sponsored by the member. In line with our hypothesis, legislators who are facing term limits and leaving office have fewer incentives to sponsor targeted or local bills compared to those continuing in the chamber and not subjected to term limits. Likewise, we also find that those retiring also face fewer incentives to sponsor targeted and local bills compared to those continuing in the chamber. None of the other variables in this model reached conventional levels of statistical significance.

Table 4: Fixed Effects Regression of Legislative Particularism in the U.S. States

	Targeted Bills	Local Bills
Individual-level Covariates:		
Termed-Out	-3.45 (0.10)***	-3.28 (0.11)***
Other Office Seeking	-0.08 (0.10)	-0.07 (0.10)
Retiring	-0.29 (0.06)**	-0.28 (0.06)**
Majority Party Status	0.13 (0.19)	0.16 (0.18)
Electoral Competition	0.02 (0.04)	0.01 (0.02)
Ideology	0.08 (0.10)	0.06 (0.08)
Urban	0.03 (0.05)	0.07 (0.11)
Seniority	0.36 (0.40)	0.33 (0.37)
Female	0.03 (0.05)	0.02(0.04
White	0.01 (0.02)	0.03 (0.04)

$*p < 0.05, **p < 0.01, ***p < 0.001$

4   Robustness Check: Multilevel Analysis of Local and Targeted Bill Sponsorship Patterns

As an additional check on whether alternative operationalizations of key variables and/or the inclusion of additional institutional variables confound the relationship between electoral rules and legislative particularism, we re-estimate our multilevel models of targeted bills and local bills. In our first multilevel analysis, we reestimate our model from the paper with the

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[1]We also estimated Poisson Regression Models and Zero-Inflated Poisson Models, and Zero-Inflated Negative Binomial Regression Models. The Negative Binomial Regression Model provided the best fit as assessed by the countfit module in Stata.

inclusion of additional control variables, such as the size of the state house, Speakers' powers, turnout rates of primaries, the number of candidates in the primaries and the legislator's margin of victory in the primaries. This will enable us to assess the effects of potential confounding factors.

Data on the size of the state house was obtained from the *National Conference on State Legislatures* website for the 2003-2004 legislative session. For the institutional measure of Speaker's powers, we relied upon Mooney's (2013) index for the 2003-2004. Mooney's measure consists of 5 institutional components: Committee chapter appointment authority, committee member assignment authority, chamber leadership appointment authority, bill referral rights, and control over legislative committee staff.[2] There has been extensive literature on the causes and consequences of legislative organization. The distributive theories of legislative organization suggest that electoral rules that make personal reputations more important motivate legislators to decentralize power (away from party leaders) in order to target particularistic goods to their local constituencies. However, partisan theorists argue that majority leaders use their prerogatives to advance the agenda of the party. Thus, committees act as arms of the party leaders and members will act to enhance the collective reputation of their party, which will ultimately help their electoral fortunes. This suggests that there will be more particularistic legislation where Speaker's powers are weaker and less particularistic legislation where Speaker's powers are stronger.

The data on turnout rates in primaries, margin of victory in primaries and the number of candidates in primaries were collected from each of the state's secretary of state website. In some cases, the data were not available online; in those cases, we obtained the data from staff members with the state's secretary of state. The turnout rates are measured by the number of voters casting a ballot in the particular state house election divided by the total registered voters. The number of candidates in the primaries is an individual-level covariate of the number of individuals seeking the party's nomination for the general election. Finally, the legislator's margin of victory in the primary consists of the difference in the number of votes received by the winning candidate subtracted by the number of votes received the runner-up candidate not receiving enough votes to advance to the general election for the party.

The results of this analysis are presented in Table 5. In this reexamination, we find that the results of our original model are robust to the inclusion of these additional control variables. Our key explanatory variables pertaining to the electoral rules are all statistically significant and in the expected direction. Specifically, members who are facing term limits sponsor about 5 fewer targeted bills and 6 fewer local bills, all else equal. Those retiring from office sponsor about 2 fewer targeted and local bills. These variables are highly statistically significant ($p <$ 0.001). District magnitude also wields a significant negative effect ($p < 0.001$), indicating that a unit increase in district magnitude (i.e., an additional legislator elected from the district) produces an expected increase of almost 8.5 targeted bills and almost 7 local bills,

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[2]For more detail, please refer to page 270 of Mooney (2013). The authors would like to thank Chris Mooney for generously sharing his data.

all else equal. The inclusiveness of the selectorate also produces a positive, significant effect on sponsorship of targeted and local legislation ($p < 0.001$). Among the control variables, the number of candidates in the primary exerted a positive, significant effect–with every additional candidate in the primary, we expect 1 additional targeted and local bill sponsored, all else equal.

Table 5: Random Coefficients Model of Legislative Particularism in the U.S. States

	Targeted	1st Diff.	Local	1st Diff.
Individual-level Covariates:				
Termed-Out	-1.16 (0.11)***	**-4.67**	-2.18 (0.17)***	**-6.04**
Other Office Seeking	-0.04 (0.07)	-0.07	-0.03 (0.05)	-0.06
Retiring	-2.03 (0.17)***	**-2.25**	-1.18 (0.10)***	**-2.00**
District Magnitude (Legislators Per District)	1.53 (0.14)***	**8.41**	1.37 (0.11)***	**6.98**
Majority Party Status	0.02 (0.05)	0.03	0.05 (0.06)	0.08
Electoral Competition	-0.03 (0.08)	-0.04	-0.05 (0.07)	0.07
Ideology	0.06 (0.09)	0.09	0.03 (0.05)	0.04
Urban	0.01 (0.03)	0.03	0.02 (0.03)	0.03
District Median Income	0.20 (0.25)	1.02	0.16 (0.19)	0.93
Seniority	0.19 (0.31)	0.40	0.23 (0.28)	0.49
Female	0.06 (0.10)	0.09	0.08 (0.11)	0.13
White	0.09 (0.12)	0.21	0.06 (0.09)	0.11
Primary Turnout Rate	0.20 (0.24)	0.10	0.25 (0.27)	0.15
Number of Candidates in Primary	0.27 (0.08)***	**1.24**	0.20 (0.06)***	**1.09**
Margin of Victory in Primary	-0.11 (0.18)	-0.19	-0.07 (0.10)	-0.10
State-level Covariates:				
Inclusiveness	1.42 (0.12)***	**7.20**	1.49 (0.10)***	**7.36**
Professionalism	0.12 (0.14)	0.15	0.08 (0.10)	0.10
State House Size	1.03 (1.45)	0.96	1.11 (1.23)	1.01
Speaker Powers	1.13 (1.19)	0.98	1.21 (1.26)	1.08
Turnover	-0.02 (0.03)	-0.04	-0.01 (0.04)	-0.02
Majority Size	1.58 (0.09)***	**5.96**	2.24 (0.09)***	**6.25**
Constitutional Limitations	-0.05 (0.10)	-0.07	-0.07 (0.09)	-0.08
Bill Initiation Limits	-0.03 (0.08)	0.05	-0.02 (0.04)	-0.03
Cross-level Covariates:				
Termed-Out x Inclusiveness	-2.89 (0.29)***	-8.72	-2.56 (0.22)***	-8.37
Other Office x Inclusiveness	0.05 (0.07)	0.06	0.03 (0.05)	0.05
Retiring x Inclusiveness	-0.61 (0.09)**	-1.32	-0.51 (0.07)	-1.05
Majority Status x Inclusiveness	0.06 (0.10)	0.08	0.09 (0.12)	0.07
Majority Status x Majority Size	0.03 (0.05)	0.04	0.01 (0.03)	0.02
AIC	10310		10490	
BIC	10599		10984	

$*p < 0.05, **p < 0.01, ***p < 0.001$

The next model includes the additional control variables from the previous model and also utilizes a different operationalization of "district magnitude" which consists of a state-level dummy variable equal to 1 if the state utilizes multimember districts and 0 if the state uses single-member districts. Due to this operationalization, in this model, we exclude several state houses that operate under mixed electoral systems (both SMD and MMD). We also exclude the Louisiana House since it represents an outlier in our dataset. Additionally, rather than using the additive index of inclusiveness denoting the type of primary system employed in the state, we instead included separate variables for the primary type with closed primary excluded as the baseline category. This allows us to relax the assumption of linearity of this measure to investigate how the inclusiveness of the selectorate affects legislative behavior. Finally, instead of the state's per capita income, we include a measure of the median income of the district since the state-level measure could mask important differences within the state.

The results are presented in Table 6. Despite the considerable differences in this model compared to that of our main analysis in the paper, our findings concerning the important role of the electoral rules on legislative particularism are robust. These findings demonstrate that legislators who are termed-out of office, yet not seeking another public office, sponsored significantly fewer targeted and local bills (on average about 6 fewer targeted bills and 5 fewer local bills). Similarly, retiring members also appear to lack incentives to sponsor targeted and local bills, sponsoring about 2 fewer targeted bills and 1 fewer local bills. In addition to these key individual-level institutional variables, a couple of control variables pertaining to the primary election achieved statistical significance as well. In particular, the number of candidates in the primary had a positive, significant effect on the number of targeted and local bills members sponsored. Additionally, the margin of the legislator's victory in his or her primary had a significant, negative effect on the number of targeted and local bills sponsored by the member. None of the other individual-level covariates reached statistical significance.

In terms of contextual factors, the types of primary systems employed at the state-level significantly influenced the number of targeted and local bills members sponsored. Using separate indicators for primary types, we see that members elected under semi-closed primaries sponsor significantly more targeted and local bills than those elected in closed primaries (close to 1 additional local and targeted bill), and this effect is significant at the 5% significance level. In semi-open systems, legislators are expected to sponsor about 5 more targeted bills and 4 more local bills than those from closed primaries, all else equal ($p < 0.001$). Finally, members elected under open primaries sponsor significantly more targeted and local bills than those elected under closed primaries–about 10 more targeted bills and 9 more local bills, all else constant.

We also included cross-level interactions for our key covariates, especially the primary system type and the career/electoral status of the legislator. Although we do find some significant cross-level interactions, the results do depart somewhat from our main findings in Table 3 of the paper. In the original analysis, we find a sigificant interactive relationship between

termed-out legislators and inclusiveness as well as retiring members and inclusiveness. In this new model, we only find a significant relationship with the interaction between termed-out legislators and open primaries. None of the other cross-level interactions reach conventional levels of statistical significance.

Codebook

Coding of all bills resulted in a spreadsheet with the following information:

1. 1st column: bill type: This is a bill identifier provided for each piece of legislation introduced. It may take values such as: hb (for house bill), hr (for house resolution), hcr (for house concurrent resolution), hjr (house joint resolution), sb (for senate bill), sr (for senate resolution), etc. The possible names/bill types may vary across the state legislatures.

2. 2nd column: bill number: this is a numeric bill identifier that comes after the bill type. For example, HJR 125: HJR is the bill type and 125 is the bill number.

3. 3rd column: short description: this is simply a short description of the bill's subject or contents. It will tell us in a nutshell what the legislation pertains to. Most legislatures will have a 1 line description so you do not have to draw it from the long text itself.

4. 4th column: primary sponsor - the 1st author of the legislation (will typically be listed first among all bill sponsors)

5. 5th column (may span multiple columns): cosponsors - legislators who have signed onto the legislation as coauthors/cosponsors. Each cosponsor should be entered in separate column.

6. 6th column: number of cosponsors/sponsors - total number of legislators who have signed this name to the bill (primary sponsor + all cosponsors)

7. 7th column: Local and General legislation coding Introduced by Local: If a local bill, was bill introduced by local. (0-7 Code)   1= the bill is local
0=the bill is general in scope

8. 8th column: Targeted versus local legislation The bill is targeted if it is local and the bill pertains to something within the legislators' district (code as 1 in column 8). If the bill is local but does not pertain to the sponsor's specific district, then it is coded as 0 in column 8.

The coding scheme for classifying legislation as general, or targeted is based on Gamm and Kousser (2011).

Table 6: Random Coefficients Model of Legislative Particularism in the U.S. States

	Targeted Bills	1st Difference	Local Bills	1st Difference
Individual-level Covariates:				
Termed-Out	-2.08 (0.11)***	**-6.25**	-1.82 (0.10)***	**-5.52**
Other Office Seeking	-0.08 (0.10)	-0.12	-0.07 (0.10)	-0.09
Retiring	-0.79 (0.09)**	**-1.68**	-0.53 (0.14)**	**-1.19**
Majority Party Status	0.07 (0.16)	0.06	0.03 (0.08)	0.02
Electoral Competition	-0.05 (0.09)	-0.08	0.08 (0.09)	0.05
Ideology	0.10 (0.10)	-0.11	0.05 (0.07)	0.06
Urban	0.03 (0.05)	0.09	0.07 (0.11)	0.08
District Median Income	0.12 (0.16)	0.08	0.13 (0.14)	0.10
Seniority	0.75 (0.82)	0.62	0.29 (0.33)	0.31
Female	0.11 (0.15)	0.04	0.05 (0.05)	0.04
White	0.06 (0.11)	0.15	0.09 (0.01)	0.07
Primary Turnout Rate	0.26 (0.30)	0.12	0.22 (0.25)	0.11
Number of Candidates in Primary	0.40 (0.09)**	**0.83**	0.16 (0.05)**	**0.07**
Margin of Victory in Primary	-2.85 (0.60)**	**-3.41**	-1.30 (0.27)**	**-1.23**
State-level Covariates:				
Semi-Closed Primary	0.09 (0.05)*	**0.94**	0.09 (0.07)*	**0.92**
Semi-Open Primary	1.13 (0.09)***	**5.14**	1.05 (0.07)***	**4.32**
Open Primary	3.91 (0.36)***	**9.87**	3.82 (0.25)***	**8.93**
Professionalism	0.21 (0.25)	0.29	0.09 (0.14)	0.11
State House Size	0.35 (0.27)	0.06	0.41 (0.46)	0.33
Speaker's Powers	1.26 (1.35)	1.04	1.18 (1.22)	0.92
Turnover	-0.04 (0.07)	-0.06	-0.01 (0.03)	-0.01
Majority Size	1.45 (0.07)***	**5.91**	2.18 (0.07)***	**6.03**
Constitutional Limitations	-0.11 (0.13)	-0.39	0.10 (0.13)	0.06
Bill Initiation Limits	-0.11 (0.17)	0.21	0.03 (0.05)	0.03
Multimember Districts	1.97 (0.10)***	**12.35**	1.76 (0.04)***	**9.79**
Cross-level Covariates:				
Termed-Out x Semi-Closed Primary	-0.38 (0.41)	-0.22	-0.32 (0.36)	-0.39
Termed-Out x Semi-Open Primary	-0.51 (0.62)	-0.60	-0.56 (0.63)	-0.57
Termed-Out x Open Primary	-1.24 (0.05)***	**-1.73**	-1.14 (0.05)***	**-1.68**
Other Office x Semi-Closed Primary	0.01 (0.04)	0.02	0.03 (0.04)	0.06
Other Office x Semi-Open Primary	0.04 (0.07)	0.06	0.11 (0.14)	0.09
Other Office x Open Primary	0.08 (0.12)	0.07	0.09 (0.10)	0.10
Retiring x Semi-Closed Primary	0.04 (0.10)	0.06	0.11 (0.14)	0.09
Retiring x Semi-Open Primary	0.27 (0.31)	0.29	0.21 (0.24)	0.23
Retiring x Open Primary	0.23 (0.25)	0.16	0.20 (0.22)	0.14
Majority Status x Majority Size	0.19 (0.21)	0.10	0.13 (0.15)	0.09
AIC	11939		12782	
BIC	12493		12446	

$*p < 0.05, **p < 0.01, ***p < 0.001$

References

Mooney, Christopher Z. 2013. "Measuring State House Speakers' Formal Powers, 1981-2010." *State Politics and Policy Quarterly* 13:262–273.